

Commentary

Research on social inequalities in health in India

Sauvaget and colleagues¹ use data from a prospective cohort study based in the peri-urban areas of Thiruvananthapuram, Kerala, a state known for its egalitarian social policies, to document the socio-economic inequalities in mortality. The large sample size, longitudinal design, low attrition, and efforts to verify cause of death are important strengths of their study. The study reports that low, compared to high socio-economic status (SES) groups had lower life expectancy at age 40 (about 1.5 to 2 yr less). The study also found that SES disparities were wider among men than women.

An interesting question raised by the study is how to interpret the presence and magnitude of social inequalities that are observed in a state known for its history of egalitarian policies. What more could Kerala have done to further reduce these inequalities? How do the inequalities in an egalitarian regime compare with other “non-egalitarian” regimes? The magnitude of inequalities needs to be viewed cautiously since the study does not account for caste, potentially overestimating socio-economic inequalities. Further, a disaggregated analysis of the association of socio-economic status and cause of death would have been more insightful. There is no discussion on how the magnitude of inequalities would vary if life expectancy was estimated at a different age, instead of at age 40. It is also not clear whether the findings from Thiruvananthapuram can be extrapolated to other parts of Kerala. Notwithstanding these, the study makes an important contribution to the small but growing body of research on social disparities in health in the India²⁻¹¹.

While social factors affecting health are mentioned in a majority of studies of population health in India, these are viewed more as statistical covariates and not as causal factors in their own right. However, the lack

of significant progress in prevention of disease, as well as the persistence of socio-economic inequalities in health², suggest the need to re-examine the theory and practice of public health in India by explicitly incorporating a social determinants perspective. We focus the remainder of the comment in outlining an agenda for research on social determinants in India.

Applying a multilevel social epidemiological lens

True prevention seeks to identify the underlying causes of disease and to eradicate them. As Geoffrey Rose points out, the cause of incidence of disease in a population is conceptually different from the cause of individual cases of disease¹². If we assume that the strategies effective in treating a case will also be effective in lowering the incidence of the disease in the population, we are assuming that solutions at the individual level will also work at the societal level, as long as we increase the number of individuals being reached. For example, while antihypertensive medication might lower the risk of stroke in a patient, decreasing the incidence of stroke in a population by screening out and treating the hypertensives will only deal with the problem among the few who are caught in the net of screening, and not the root cause of increasing hypertension in the population. An increase in obesity and other causes of hypertension might all be trends in the population. If the causes of these societal trends are not addressed, the fundamental causes of incidence of stroke are not addressed and our strategies fail to focus on prevention.

Despite repeated calls for “paradigm shifts”, a critical re-engineering of the public health approach has not been undertaken in India. A social epidemiological perspective allows us to take a comprehensive look at the causes of health and disease in a population. It points us towards a multilevel conceptualization where

factors ranging from international and national policies to community-level resources to individual-level genetic predisposition are given importance^{13,14}. Such a model allows formulation of pathways linking causal factors from the macro to the micro levels and suggests numerous points for intervention such as national programmes increasing employment opportunities in rural areas, or provision of medications in primary health centers.

Applying a multilevel social epidemiological lens will also require designing studies that take into account the lifecourse perspective which addresses intergenerational determinants of health^{15,16}. Applying this perspective gains increasing importance as India faces the challenges of chronic non-communicable diseases while continuing to combat infectious diseases. The greater non-communicable disease incidence among the better-off co-existing with the high infectious disease burden among the disadvantaged highlights the diverse social processes that cause health and disease in the Indian context⁵.

Conceptual clarity in causal models

Social epidemiological studies will be strengthened by making clear the theoretical conceptualization on which the causal model, and hence the research question, is based. The study by Sauvaet and colleagues¹ contrasts the history of egalitarian policies in Kerala with the socio-economic inequalities in life expectancy, implying that social policies influence health and that in Kerala one would expect minimal socio-economic disparities in health. However, an explicit engagement with this causal model might have allowed a clearer interpretation of the findings, thereby highlighting the policy implications.

Studying the links between society and health requires melding concepts from the social sciences with traditional public health. Such an endeavour greatly benefits from inter-disciplinary input, which may include critiques, from social scientists. Critics have exhorted social epidemiologists to unequivocally recommend economic policies that are health-enhancing, such as reduction of income inequality by curtailing income at the higher end. They also point to the need of acknowledging the importance of political power while thinking of strategies to tackle upstream determinants. The importance of gauging whether social pressure supports policies we recommend¹⁷, and of avoiding translation gaps when it comes to adopting successful interventions, have also been highlighted.

Incorporating social constructs in causal models while considering practical realities enable research to produce policy-relevant evidence.

Methodological issues in social epidemiology

Methodological rigor is also critical to advancing the agenda of social determinants of health in India. For instance, the study by Sauvaet and colleagues¹ would have greatly benefited from the inclusion of a comparison group such as Sweden or even an Indian state which is not egalitarian. The lack of a comparison scenario begs questions such as how much disparity is too much and what does it mean when we observe disparities in a more egalitarian state.

Research on social determinants of health also needs to consider the pathway from health to wealth. Reverse causation is an important threat to causal validity when studying socio-economic factors in cross-sectional studies, given the evidence showing that ill health lowers socio-economic status. Most observational studies of socio-economic status and disease will need to evaluate the extent to which reverse causation might have affected the study findings. In addition to taking issues of causality seriously, this research also needs to consider a cost-benefit analytical framework. Even while considering direct investments in health there is evidence to suggest that the benefits of preventive health programmes are frequently greater among the better-off because they are more likely to be aware of and participate in such programmes, thus widening health disparities.

Another facet of studying disparities is the balance between relative versus absolute measures. Mortality among infants born to mothers with less than 10 years of schooling in Kerala was about 25 per 1000 live births, while it was 9.5 per 1000 live births among mothers with 10 or more years of schooling¹⁸. Punjab is approximately close to Kerala in population size and rate of economic growth¹⁹. The differential in infant mortality rate (IMR) in Punjab between mothers with <10 years of schooling (45.2/1000 live births) and mothers with 10 or more years of schooling (33.6/1000 live births) is 11.6¹⁸, similar to the that in Kerala. Assuming that Punjab lags behind Kerala in implementation of egalitarian policies, one can argue that such policies have not had a major effect in reducing disparities in infant mortality in Kerala. On the other hand, on a ratio scale, the disparities in Kerala (2.62) are almost twice that observed in Punjab (1.35). This highlights the importance of choice between

relative differences (difference in absolute rates) versus relative ratio (ratio of rates). Social epidemiological studies frequently have to deal with the implications of using relative versus absolute measures of disparities in health. Another choice is between studying “disparities in health” as the outcome versus “health.” The IMR among mothers with <10 years education in Kerala is less than the IMR among mothers with 10 or more years education in Punjab. This suggests that the influence of the egalitarian policies in Kerala, if any, has been in reducing IMR and perhaps not so much in reducing “disparities in IMR.”

Conclusion

Reversing accumulation of generations of health disadvantage requires massive input of resources and it might be best to begin with measurable and achievable, if smaller, steps in that direction²⁰. Our goal was to initiate a debate and discussion on research on social determinants in India. The one claim we do make is that public health professionals in India cannot afford to postpone having this discussion any longer.

Malavika A. Subramanyam & S.V. Subramanian*

Center for Integrative Approaches
to Health Disparities
School of Public Health
University of Michigan &
*Department of Society
Human Development and Health
Harvard School of Public Health
Boston MA, USA

*For correspondence:

Dr S.V. Subramanian
Associate Professor
Harvard School of Public Health
677 Huntington Avenue
Boston MA 02115, USA
svsubram@hsph.harvard.edu

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